DOCUMENT RESUME

ED 168 308 **FL 010 131**

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TITLE The Need for Including the Topic of Developmental Psycholinguistics in Educational Psychology Courses.
PUB DATE Aug 78
NOTE 20p.; Paper presented at the annual meeting of the American Psychological Association (86th, Toronto, Canada, August 1978)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Child Language; Cognitive Ability; Cognitive Development; Course Content; *Developmental Psychology; Educational Needs; *Educational Psychology; Elementary Education; *Language Development; Language Skills; *Linguistic Competence; *Linguistic Performance; Nonstandard Dialects; Psychoeducational Processes; *Psycholinguistics; Teaching Methods

ABSTRACT

Although educational psychologists are concerned with the acquisition of knowledge, particularly in the classroom, language acquisition and knowledge of language are areas slighted in their textbooks. Integration of developmental psycholinguistics into educational psychology courses should employ the recently emerging rationalist view rather than the older empiricist view. The rationalist view suggests that the human mind contains preconceptions about the nature of language, enabling persons to implicitly determine the linguistic rules of their community. This position has three major implications for teaching: (1) language differences among children do not reflect differences in cognitive ability, but rather differences in the speaker-hearer community; (2) individual differences in children's linguistic performance in classroom settings should be distinguished from their linguistic competence, and each aspect should be dealt with accordingly; and (3) teachers who have an understanding of language acquisition and knowledge can provide experiences that develop the child's metalinguistic awareness. Several practical methods for implementing each of these three aspects of psycholinguistics in the classroom are discussed. Suggested source materials and annotated bibliographies for student and instructor are appended. (Author/MHP)

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THE NEED FOR INCLUDING THE TOPIC OF DEVELOPMENTAL PSYCHOLINGUISTICS IN EDUCATIONAL PSYCHOLOGY COURSES

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Educational psychologists are concerned with the acquisition of knowledge, particularly in the context of the classroom. Language acquisition and knowledge of language is a major subset of knowledge acquisition, but is an area of study that has consistently been slighted in educational psychology texts.

There are several possible reasons why the topic of psycholinguistics has been relatively overlooked. One reason may be the newness of the field. It has only been studied the last 15 to 20 years. A second reason may be the definition of the term "psycholinguistics", causing a confusion as to whether the area is most appropriately a part of linguistics, psychology, human development, education, anthropology, or sociology. Ervin-Tripp and Slobin (1966, p. 435) define it "as the study of the acquisition and use of structured language" with "comparative animal communication, the organic bases of language, and the social determinants of language" all falling within the purview of this area. Given this broad a definition, the study of psycholinguistics falls within the domain of virtually all areas in the social sciences. A third, and probably

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[1]Paper presented at the annual meeting of the American Psychological Association, Toronto, Canada, August, 1978.

the most important, reason psycholinguistics has not been a routine topic in educational psychology texts is the difficulty in applying the results of theoretical approaches and research to the everyday classroom setting. To date, with the notable exception of Courtney Cazden, psycholinguists have been predominantly interested in formulating theories with very little concern for application.

In an informal survey of approximately 15 educational psychology texts, I found that when language knowledge has even been included, the discussions were quite similar, and rather disappointing. Those authors including psycholinguistics as a section in their texts typically presented a summary of the two major theories of language acquisition and use, i.e., the rationalist or nativist view and the empiricist view. Few authors were willing to conclude which theoretical orientation was the most plausible, and only one text provided any implications for teaching. These implications, e.g., listen carefully to what the child says, respond to content, not form, encourage children to verbalize, however, were not related to the two theoretical approaches to child language presented in the text, but appeared to be common sense advice tacked on at the end of the chapter. This sad state of affairs is not surprising; Roger Brown (1975, p. 477) notes that psycholinguists are "not primarily concerned with problems of social value."

A brief overview of modern thinking about language acquisition and use reveals that discussion of language knowledge in the 20th century has been dominated by the classic empiricist position, which suggests that language use, i.e., generation of appropriate words,

phrases, and sentences, is a habit system acquired through imitation and reinforcement (Skinner, 1957). There is very little empirical evidence, however, to support this view (Chomsky, 1959). More recently, Chomsky (1957, 1968), McNeill (1970), Lenneberg (1967), and others have reintroduced the rationalist view of knowledge acquisition, specifically as it relates to language acquisition and knowledge. The rationalist view suggests that the human mind contains a system of common preconceptions or ideas about the formal nature of language, through which the error-ridden linguistic data of one's speech community is filtered. This filtering process, then, allows one to implicitly determine what rules are operating in the language of their speech community. There is considerable empirical data supporting this view, e.g., Lenneberg's (1967) noting of the correspondence between language development and physical and motor maturational milestones, Slobin's (1970) cross-cultural work on linguistic universals, and Brown's (1973) observations of children's orderly acquisition of grammatical structures and use of overgeneralizations of syntactic rules.

Why would teachers and prospective teachers be aided by understanding of a rationalist theory of language knowledge? Aside from the notion that teachers are generally interested in all aspects of child and adolescent development, the rationalist view has three major implications for teaching. First, language differences among children, especially speakers of nonstandard English dialects, do not reflect differences in cognitive ability. Secondly, the rationalist view can be used to explain individual differences in children's linguistic performance in classroom settings. Thirdly, teachers who

have an understanding of language acquisition and knowledge can provide experiences that develop the child's metalinguistic awareness.

Language and cognitive ability. Elementary and secondary teachers must be aware that language differences among children reflect exposure to differing speaker-hearer communities, not differences or deficiencies in cognitive ability. Teacher clarity on this point is especially important for those working with lower socioeconomic students and/or students who speak a nonstandard English dialect. When group data is examined, lower achievement scores are often noted for these students, and it is easy for teachers to make the incorrect assumption that speaking nonstandard English causes cognitive deficiency. The early work of Bernstein (1960) and Hess and Shipman (1965) would suggest that the assumption is correct; the language the child learns at home sets limits within which future thought and cognition take place. Since these researchers suggest that very early experience with either "elaborated" or "restricted" language styles effects cognitive structure, and exposure to different degrees of these styles corresponds with SES, and therefore use of a nonstandard English dialect, the conclusion is that poorer achievement of lower SES students is a result of the type of linguistic style used in the home.

This rather bleak view that by the time the child reaches school age limits on future cognitive functioning have already been set, is countered by a rationalist view of language acquisition and knowledge. The surface structure or phonological sound of the language used by

nonstandard English speakers is different than standard English; it is not deficient. Conceptual linguistic differences in Standard English and Black English are few. Labor and Cohen (1967) have identified only a couple of forms in Black English which indicate differences in the deep structure, i.e., the underlying intent of the speaker. For example, in Black English the word "be" is used to indicate repeated action or existential state, as in sentences of the form "He be playing" and "He be with us"; and the word "done" is used in Black English to indicate an intensive or perfective meaning, as in sentences of the form "The ball done hit me" and "I done got me some money". However, these are exceptions to the general rule that Black English and Standard English differ only in surface structure, and not in the ability of the speaker to express meaning.

Since Black English speakers are clearly not linguistically deficient, but have a fully developed, though different, surface structural system than Standard English speakers, there is no reason why Black English speaking children cannot express any and all cognitive intents in Black English dialect. The crux of the question then becomes whether or not dialectal features per se carry any implications for the child's education. This is a social issue, not a cognitive one, and must be addressed by each teacher individually, working in conjunction with students, parents, school district officials, and community leaders. Some obvious questions to be discussed are: What is the attitude of the student's parents and community toward Black English dialectal features; is the child a balanced bidialectal speaker; does the child's speaking of a nonstandard

English dialect appear to interfere with reading; and does the child speak a stilted, less rich and creative standard English than nonstandard English? There are no blanket answers to these questions, only those that are arrived at within each unique educational setting of the child.

Individual differences. Clearly linguistic performance in the classroom varies across children. Such linguistic variance affects academic achievement. The rationalist view of language, as suggested in the previous section, indicates that the linguistic knowledge or competence of all speakers is equal, however, the outcome of that competence, i.e., performance is different from speaker to speaker. Cazden (1966, p. 136) defines competence as "the speaker - hearer's knowledge of his language--the finite system of rules which enable him to comprehend and produce an infinite number of novel sentences", while performance is defined as "the expression or realization of competence in behavior." Cazden states that it is helpful to think of two kinds of performance. Performance A is what speakers can comprehend and produce; performance B is what speakers typically comprehend and produce. Performance A can then be thought to vary as a function of such psychological or intrapersonal variables as attention, memory, anxiety, and impulsivity, while performance B can be thought to vary as a function of such sociological or interpersonal variables as setting, topic being addressed, and presence or absence of others.

It is important for teachers to realize that the observable differences in linguistic comprehension and performance, that are so

obvious in children, are due to performance A and/or B variables, which the teacher can directly affect. For example, teachers can influence performance A variables by establishing programs to increase memory through training in the use of mneumonic devices, verbal mediation strategies, etc., or establish procedures to alleviate student anxiety or set up routines to train reflexivity.

Children's performance B in a school setting will dramatically be affected by the amount of "interference" between the linguistic system they bring from a home setting to the system they confront in a school setting. The degree of match between the more typical home linguistic system and that of the school will affect comprehension and production, and thus academic achievement. The importance of the match between these two systems is nicely summarized by Bany and Johnson (1975, p. 343):

> "...the language of the classroom is thought of as an existing entity and it is a possession of every teacher. Further, this conception sees the teacher as imposing this language on the students whom he teaches. If the students already are familiar with the language, they have no problem and progress easily and steadily; while if they are unfamiliar, they are required to take on the special language in use in the classroom and their progress is conditional in relation to their language success."

Some ways teachers can narrow the gap between home and school linguistic differences are by deliberately changing classroom patterns that are in conflict with the student's home type, e.g., using more dialogue and less lecture and recitation; by explicitly stating expectations for observance of classroom rules; and by pinpointing likely areas for miscommunication in the classroom. When students fail to understand the teacher misinterpretations especially of social

meanings may lead to lowered teacher expectations, reducing the quality and quantity of teacher information to student, resulting in lowered achievement (NIE, 1975).

Direct intervention on the part of the teacher will affect both performance A and B, and therefore academic achievement.

Development of metalinguistic awareness. Teachers who have an understanding of language acquisition and knowledge can provide experiences that develop the child's metalinguistic awareness. Metalinguistic awareness, like linguistic ability, is a developmental process whereby the child begins to learn about language. It is the ability to think, at a conscious level, and comment about the sounds in words, the ordering of words in spoken or written sentences, and the selection of the most appropriate linguistic form to convey a given meaning. Metalinguistic ability emerges in most children at approximately age six. Cazden (1972) suggests that since metalinguistic awareness of language probably accounts for more differences among children on school tasks than can be accounted for by actual differences in language useage, the development of metalinguistic awareness is the "heart of true education" (p. 90). Metalinguistic knowledge can be applied to many school tasks, especially reading and writing. For example, the child may implicitly know the rules for pluralization; his comprehension is accurate and production of spoken utterances is correct. But many school tasks require the child to be able to manipulate and apply that implicit knowledge of pluralization in reading and writing tasks, e.g., knowing explicitly that the plural of most nouns ending in "y" is formed by deleting the

"y" and adding "ies". For the child to succeed academically, he must know at a conscious level many of the rules of his language.

In addition to metalinguistic ability being necessary for achievement in reading and writing tasks, metalinguistic awareness is related to development of more sophisticated intellectual abilities because movement toward inner perception results in generalization, and therefore, new ways of thinking. However, this statement should not be confused with the Sapir-Whorf hypothesis of linguistic relativity, which suggests that the language of a speaker imposes a unique view of the world. The former notion refers more to the relative ease with which speakers can make subtle distinctions given a rich set of metalinguistic information. And finally, it is also metalinguistic awareness that allows the child to act on possible information, not just actual information.

In summary, metalinguistic knowledge can account for increased school achievement in three ways: aiding performance on reading and writing tasks, making it relatively easier to make subtle distinctions, and allowing action on possible information. In a recent paper, Dale (1978) stated that while it is possible for teachers to aid in the improvement of metalinguistic skills, there is no empirical evidence yet available to indicate that intervention with metalinguistic abilities is "a wise strategy" (p. 3). Until such data is available, however, it would seem wiser to follow Cazden's suggestion of advancing metalinguistic awareness.

Integration into educational psychology courses.

Psycholinguistics is a field of study that falls within the domain of all social science disciplines. As such, it is especially easy for

the instructor to integrate into the educational psychology curriculum. One option, of course, is for the instructor to present the psycholinguistic information as a separate unit of instruction. Another, and perhaps, more interesting and useful option is to incorporate various aspects of psycholinguistic research into the more "traditional" units of the educational psychology curriculum. For example, the relationship between language and cognition would fit into the section addressing intellectual development. Especially interesting would be a meshing of Piagetian and rationalist views. While the focal point of these two views is different, they are not mutually exclusive. Piaget suggests that the logic of the thinking processes are expressed in language, i.e., language is a symptom of cognitive orientation which reflects rather than determines levels of cognitive development (Flavell, 1963). The relationship of language and cognition could also be discussed in those units of instruction addressing measurement of IQ and achievement, and the effects of early experiences on later development.

The psycholinguistic research dealing with the speaking of a nonstandard English dialect could be included in units on bilingual/bicultural education, social development, and curriculum development. The rationalist dichotomy of linguistic competence and performance would be an appropriate sub-unit of instruction on individual differences; and metalinguistic development could be integrated into that part of the course covering the "how to" of teaching, e.g., the setting up of programs to teach reading.

The two attached appendices will be useful for educational psychologists who are not too well-versed in the area of developmental

psycholinguistics. Appendix A suggests background readings for the instructor and Appendix B lists readings that are suitable for students who have had limited training in psychology. A brief annotation is included for each reference. The appendices are by no means exhaustive of the available writing on psycholinguistic development. Their purpose is to give the instructor a limited, and therefore manageable, list of the classic and/or most useful references to read for the preparation of a unit on psycholinguistics. The intent of this paper has been to whet the appetite, so more educational psychology teachers will see the need for incorporating the topic of psycholinguistics into the educational psychology curriculum.

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Appendix A

Abrahamsen, A. A. Child language: An interdisciplinary guide to theory and research. Baltimore: University Park Press, 1977. 381 pages. Approximately 1500 entries.

This is an excellent, complete, and current annotated bibliography of references related to developmental psycholinguistics. The guide is divided into fine major parts: general resources, syntactic development, semantic development, theory, and phonology and orthography. Texts, review articles, collections of readings, and journals are all briefly described. The educational psychologist who wants an idea of the scope of the literature related to child language, or who would like to know specific references related to a given topic in psycholinguistics, will find this guide most helpful.

Brown, R. Psycholinguistics. New York: The Free Press, 1970. 392 pages.

This selection or "classic" readings by Roger Brown and his co-workers is divided into two parts: the development of a first language and psycholinguistics processes in adult life. The first half, on acquisition, consists of eight papers that chronologically trace the evolution of thinking about child language from 1958 to 1970. While none of these papers provide a direct link to application in the classroom, they are most interesting for the educational psychologist concerned with the beginnings of psycholinguistics as a field of study. The papers also show how thinking about child language shifted in perspective during its formative years.

Brown, R. A first language: The early stages. Cambridge, Mass.: Harvard University Press, 1973. 437 pages.

Brown has outlined the order of children's language development into five stages based on mean length of utterance. This work provides a detailed description of Stages I and II, primarily based on data from his longitudinal study of three pre-school age children - Adam, Eve, and Sarah. The book presents evidence that linguistic knowledge develops in an approximately invariant form for all children, though at different rates.

Lenneberg, E. H. Biological foundations of language. New York: Wiley, 1967. 489 pages.

In this highly technical book, the author takes the position that children's capacity to learn language is a consequence of maturation. Lenneberg devotes considerable space to discussion of the morphological and physiological correlates to language acquisition, knowledge, and production, as well as the neurological aspects of speech and language. Most interesting to the educational psychologist will be Chapter 4, discussing language in the context of growth and maturation, and Chapter 9, a general summary of a biological theory of language development.

Also included is a 45 page appendix by Noam Chomsky titled "The formal nature of language". Reading of this appendix is a quick way of obtaining first-hand knowledge of Chomsky's theory of generative transformational grammar.

McNeill, D. The acquisition of language: The study of developmental psycholinguistics. New York: Harper and Row, 1970. 183 pages.

McNeill's book provides an orderly presentation of the rationalist or nativist view of language acquisition. His premise is that "the concept of a sentence may be part of man's innate mental capacity"

(p. 2). The book, then, goes on to provide quite persuasive evidence supporting this premise. Since the intent of the author is to persuade the reader to a particular theoritical orientation, chapters of the book must be read in sequence. A 20 page appendix gives an easy-to-understand introduction to the main ideas of transformational grammar. This is an excellent discussion of the tenents of a rationalist view of language acquisition.

Appendix B

Cazden, C. B. Child language and education. New York: Holt, Rinehart, and Winston, 1972. 314 pages.

Cazden says that her "book is written for anyone, researcher or teacher, who seeks to improve children's communicative adequacy through education" (p. 1). The text provides a one chapter introduction to the study of language, four chapters addressing language development, two chapters on dialect differences and communication styles, and a chapter on the relation between language and thought. The final chapter on language education discusses "learning how", "learning that", and "learning to". This text is really the handbook for educational psychology instructors and students who are interested in the educational applications of psycholinguistic research. As such, it is certainly unique and deserves attention.

Clark, H. H. and Clark, E. V. Psychology and language: An introduction to psycholinguistics. New York: Harcourt, Brace, Jovanovich, 1977. 608 pages.

This text provides a thorough treatment of the study of listening, speaking, acquisition of language, and the relation of language to thought. The authors state the text is suitable for undergraduates, as well as graduate students, and does not require technical knowledge of either psychology or linguistics. After reading a 40-page introduction on the structure and function of language, the student would then be equipted to select those chapters of particular interest to her. Chapter 4 on memory for prose, Chapters 8 through 10 discussing language acquisition, and Chapter 13 on meaning in the child's language are especially appropriate reading for educational psychology students.

Dale, P. S. Language development: Structure and function. New York: Holt, Rinehart, and Winston, 1976. 358 pages.

This is a particularly comprehensive text. The first half of the book follows the chronological development of syntax, semantics, and phonology. It includes not only detailed descriptions of emerging speech, but also theories related to these three aspects of language development. The later part of the text focuses on the functions of language, particularly in relation to cognitive development, and sociolinguistics, particularly in relation to Black English. Unique to a text on developmental psycholinguistics, Dale provides a chapter on how language development is measured, and a brief appendix outlining "miniexperiments" students might conduct with young children.

Menyuk, P. Language and maturation. Cambridge, Mass.: The MIT Press, 1977. 180 pages.

As the title implies, this book gives a description of language behavior during four phases of maturation: infancy, early childhood, middle and late childhood, and adulthood. The author describes her book as being "addressed to students who are preparing themselves to be psychologists, educators, and therapists" (p. x). While Menyuk does not provide any direct recommendations for teaching based on the descriptions of language and psycholinguistic research she cites, the book does provide a general context for viewing language development as a life-span process. Prospective teachers will find Chapter 4 on middle and later childhood language particularly informative.

Slobin, D. I. Psycholinguistics. Glenview, Ill.: Scott, Foresman, 1971. 148 pages.

This highly readable introduction to psycholinguistics is an excellent starting place for students who have no earlier knowledge of the study of language. Slobin allots more space to the discussion of syntax than phonology or semantics, providing short, clear explanations of probabalistic models, phrase structure grammar, and transformational grammar. Chapter 3 provides an excellent 25 page discussion of language development in the child, including grammatical and phonological development, and discussion of theories of acquisition. The remainder of the book addresses meaning, and the relation of language and cognition. The topics of sociolinguistics and biological bases of language are not included.